In the specification:

Please amend the paragraph beginning on page 8, line 15, as follows:

According to yet another embodiment, a substrate-holding device according to the invention comprises a wafer chuck as summarized above. An HTG-supply system is connected to the HTG channel and configured to supply a heat-transfer gas to the channel. The device includes a cold trap connected to the HTG-supply system such that heat-transfer gas intended to enter the channel passes through the cold trap before entering the channel. The cold trap is configured to remove impurities from the heat-transfer gas as the gas passes through the cold trap. The cold trap can include an adsorbent for collecting the impurities, a vessel configured to contain a cooling substance at a temperature sufficient ~~to~~ at least to liquefy impurities in the heat-transfer gas so that the impurities can be adsorb onto the adsorbent, and an exhaust system connected to the cold trap. The exhaust system comprises an exhaust duct, an exhaust valve, and an exhaust pump. The exhaust valve and exhaust pump are operable (e.g., as actuated by a controller) to isolate the cold trap from the channel and remove the adsorbed impurities from the adsorbent, respectively. The device also can include a recirculation conduit configured to recover heat-transfer gas passing through the channel and to direct the recovered heat-transfer gas to a location upstream of the cold trap so as to pass through the cold trap to the channel. The device also can include a bypass valve connected to the recirculation conduit, an HTG-inlet valve connected to the HTG-supply system. In such a configuration, a controller desirably is connected to the bypass valve, the HTG-inlet valve, the exhaust valve, and the exhaust pump. The controller is configured to operate the HTG-inlet valve relative to the exhaust pump so as to supply heat-transfer gas to the HTG channel, to operate the exhaust valve and exhaust pump relative to the HTG-inlet valve to remove heat-transfer gas from the HTG channel, and to operate the bypass valve to recirculate the heat-transfer gas.

Please amend the paragraph beginning on page 19, line 14, as follows:

As mentioned above, the HTG-inlet valve 59 desirably is mounted on the wafer chuck 49 or the wafer stage 47. "Mounted on" in this context means "attached directly or near to." Since the HTG-inlet valve 59 is thus situated at least near the wafer chuck 49, after the heat-transfer gas has been supplied to the HTG channel 67, the gas-evacuation valve 75 can be closed during

the time that wafer processing, such as microlithographic exposure, is being performed, and a vacuum can be created downstream of the gas-evacuation duct 77. At completion of wafer processing, at the moment the gas-evacuation valve 75 is opened to evacuate the heat-transfer gas, the void in the evacuated gas-evacuation duct 77 serves as a "vacuum buffer" for the heat-transfer gas in the HTG channel 67. The buffer causes the heat-transfer gas in the HTG channel 67 to be evacuated rapidly. The amount of heat-transfer gas to be evacuated is limited to the amount of gas in conduits and other space on the area on the "chuck side" of the gas-evacuation valve 75. Using such a scheme, the heat-transfer gas is evacuated rapidly, and wafer exchange can be accomplished very quickly, thereby improving throughput.

Please amend the paragraph beginning on page 20, line 2, as follows:

In the second representative embodiment, the HTG-inlet valve 59 was left open during wafer exposure, and losses of heat-transfer gas due to gas leakage were supplemented continuously from the HTG-inlet duct 61. However, if gas leakage from the HTG channel 67 is not a problem during wafer exposure, the HTG-inlet valve 59 can be left open during wafer exposure. Such a situation is addressed by the third representative embodiment. I.e., in the third representative embodiment, and referring further to FIG. 4, after the pressure inside the HTG channel 67 has reached a desired level, the HTG-inlet valve 59 is closed and the three-way valve 65 switches to the evacuation-pump 69 side. Also, a vacuum is created inside the HTG-inlet duct 61 to the same level as the vacuum inside the gas-evacuation duct 77 (approximately 1.3×10^{-1} Pa (10^{-3} Torr) for helium).

Please amend the paragraph beginning on page 20, line 20, as follows:

This embodiment is described with reference to FIG. 5, in which a wafer chuck 510 and cold traps 517, 518 are shown in schematic elevational section. All other components are shown as a schematic hydraulic diagram. The downstream-facing surface 550B of the wafer 550 is attracted by an electrostatic force from the wafer chuck 510 and is thereby adhered and secured to the adhesion surface ("top" surface) 510A of the wafer chuck 510. HTG channels 511 are defined in the adhesion surface 510A; the HTG channels 511 extend "downward" in the figure.

An HTG-supply duct 512 is connected to the HTG channel 511 at the center of the adhesion surface 510A. Meanwhile, an end of each of the gas-evacuation ducts 537, 538 is connected to a peripheral HTG channel 511 located at the perimeter of the adhesion surface 510A.

Please amend the paragraph beginning on page 21, line 1, as follows:

The HTG-supply duct 512 branches into two HTG-supply ducts 514A, 514B, each including a respective valve 528, 525. Each HTG-supply duct 514A, 514B terminates at the respective cold trap 518, 517. The cold traps 517, 518 are connected via respective HTG-supply ducts 513B, 513A to respective HTG cylinders 535, 536. Hence, this embodiment includes two supply systems for heat-transfer gas.

Please amend the paragraph beginning on page 21, line 28, as follows:

Cleaning ducts 539, 540 branch via respective valves 531, 532 from respective portions of the HTG-supply ducts 514A, 514B downstream of the cold traps 517, 518. The cleaning ducts 539, 540 converge and are connected to a cleaning-evacuation system 542. Opening the valves 531, 532 allows the H_2O and contaminant gases, etc., that have been trapped by the respective cold traps 517, 518 to be extracted into the cleaning-evacuation system 542, thereby cleaning the cold traps 517, 518. Such cleaning normally is performed for either one or the other of the cold traps 517, 518. During cleaning, the liquid nitrogen 519, 520 in the respective Dewar flask 521, 522 is removed, thereby bringing the respective cold trap 517, 518 to room temperature. By periodically cleaning the cold traps in this manner, the contaminant-trapping capabilities of the cold traps 517, 518 are maintained.